

Notice of Allowability**Application No.**

10/583,077

Applicant(s)

SPINDLER ET AL.

Examiner

SANTIAGO GARCIA

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 04/04/11.
2. ☒ The allowed claim(s) is/are 1-26.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date ____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 06/09/11.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other ____.

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Robert J. Crawford on 06/08/11. All independent claims are amended as follows:

1. (Amended) An RFID device for non-contact communication with a reading device via modulated electromagnetic signals that contain at least one of data and commands packed in data frames, the RFID device comprising:

synchronizing circuit configured to effect synchronization of the RFID device with the reading device responsive to receipt of a data frame containing synchronizing information from the reading device;

a data control unit configured and arranged to, in response to receipt by the reading device of a data frame containing synchronizing information, receive data frames with the synchronization information removed by the synchronizing circuit, **and thereby not both receive and use at the data control unit the synchronization information for synchronization** and configured and arranged to receive data frames from a command not containing synchronization information for effecting synchronization of the RFID device received by the reading device;

synchronization status test circuit configured to detect whether the RFID device runs synchronously with the reading device and to switch on the synchronizing circuit responsive to detecting that the RFID device is not synchronized with the reading device,

wherein the RFID device is configured to receive multiple different types of commands as groups of data frames from the reading device, and wherein at least one of the received commands does not contain synchronizing information for effecting synchronization of the RFID device with the reading device.

9. (Amended) An RFID device for non-contact communication with a reading device via modulated electromagnetic signals that contain at least one of data and commands packed in data frames, the RFID device comprising:

synchronizing circuit configured to effect synchronization of the RFID device with the reading device responsive to receipt of a data frame containing synchronizing information from the reading device;

a data control unit configured and arranged to, in response to receipt by the reading device of a data frame containing synchronizing information, receive data frames with the synchronization information removed by the synchronizing circuit, **and thereby not both receive and use at the data control unit the synchronization information for synchronization** and configured and arranged to receive data frames from a command not containing synchronization information for effecting synchronization of the RFID device received by the reading device;

synchronization status test circuit configured to detect whether the RFID device runs synchronously with the reading device and to switch on the synchronizing circuit responsive to detecting that the RFID device is not synchronized with the reading device, the synchronization status test circuit including two synchronizing circuits which can be

run alternately in such a manner that one of the synchronizing circuits processes every received data frame as a data frame containing synchronization information and tries to read the synchronization information for executing a synchronization routine, while the other synchronizing circuit forwards every received data frame to the data control unit where the operation of the two synchronization circuits is switched over if a synchronization routine of one of the synchronization circuits is successful;

wherein the RFID device is configured to receive multiple different types of commands as groups of data frames from the reading device, and wherein at least one of the received commands does not contain synchronizing information for effecting synchronization of the RFID device with the reading device.

11. (Amended) An RFID system, comprising:

at least one reading device and at least one transponder, the reading device and the transponder configured for non-contact communication via modulated electromagnetic signals that contain at least one of data and commands packed in data frames,

the reading device configured for transmitting multiple different types of commands as groups of data frames to the transponder, at least one of the commands containing synchronization information for effecting synchronization of the reading device with the transponder and at least one of the commands not containing the synchronization information; and

the transponder including synchronization circuit configured to effect synchronization of the transponder with the reading device responsive to receipt of a command that contains the synchronization information, and including synchronization status test circuit configured for detecting whether the transponder runs synchronously with the reading device and to switch on the synchronization circuit responsive to detecting that the transponder is not synchronized with the reading device; and

a data control unit configured and arranged to, in response to receipt by the reading device of a data frame containing synchronizing information, receive data frames with the synchronization information removed by the synchronizing circuit, and thereby not both receive and use at the data control unit the synchronization information for synchronization and configured and arranged to receive data frames from a command not containing synchronization information for effecting synchronization of the transponders received by the reading device,

19. (Amended) An RFID system, comprising:

at least one reading device and at least one transponder, the reading device and the transponder configured for non-contact communication via modulated electromagnetic signals that contain at least one of data and commands packed in data frames,

the reading device configured for transmitting multiple different types of commands as groups of data frames to the transponder, at least one of the commands containing synchronization information for effecting synchronization of the reading device with the transponder and at least one of the commands not containing the synchronization information; and

a data control unit configured and arranged to, in response to receipt by the reading device of a data frame containing synchronizing information, receive data frames with the synchronization information removed by the synchronizing circuit, and thereby not both receive and use at the data control unit the synchronization information for synchronization and configured and arranged to receive data frames from a command not containing synchronization information for effecting synchronization of the transponders received by the reading device;

the transponder including synchronization circuit configured to effect synchronization of the transponder with the reading device responsive to receipt of a command that contains the synchronization information, and including synchronization

status test circuit configured for detecting whether the transponder runs synchronously with the reading device and to switch on the synchronization circuit responsive to detecting that the transponder is not synchronized with the reading device; and a synchronization status test circuit and two synchronizing circuits which can be run alternately in such a manner that one of the synchronizing circuit processes every received data frame as a data frame containing synchronization information and tries to

read their synchronization information for executing a synchronization routine, while the other synchronizing circuit forwards every received data frame to the data control unit where the operations of the two synchronization units are switched over if a synchronization routine of one synchronization circuit is successful.

20. (Amended) An anti-collision method for determining a number of transponders in an effective area of a reading device, the reading device communicating with the transponders without contact via modulated electromagnetic signals that contain at least one of data and commands packed in data frames, the method comprising:

transmitting, by the reading device, an inventory command as a group of data frames for determination of the transponders present in the effective area, the inventory command containing synchronization information for synchronization of the reading device with the transponders;

transmitting, by each of the transponders present in the effective area and responsive to the inventory command, a response with a unique identification number that identifies the transponder to the reading device;

transmitting, by the reading device, a repeat command as a group of data frames responsive to the reading device receiving mutually colliding responses from several of the transponders, the repeat command causing the transponders to retransmit their responses and the repeat command not containing the synchronization information;

transmitting, by the reading device, a confirm command to each of the transponders whose response was received without errors, the confirm command causing each of the transponders whose response was received without errors not to respond to the repeat command and the confirm command not containing the synchronization information; and

repeating, by the reading device, transmission of confirm commands and repeat commands until none of the transponders respond within a specified time interval; **and**

receiving by a data control unit configured and arranged to, in response to receipt by the reading device of a data frame containing synchronizing information, receive data frames with the synchronization information removed by the synchronizing circuit, and thereby not both receive and use at the data control unit the synchronization information for synchronization and configured and arranged to receive data frames from a command not containing synchronization information for effecting synchronization of the transponders received by the reading device.

REASONS FOR ALLOWANCE

2. The following is an examiner's statement of reasons for allowance: Applicants disclose an RFID system and method. The system is similar in many aspect to the prior art RFID systems. The system uses an anti-colliding method known in the prior art which is not novel. The system itself is found in the prior art and all of the components as claimed are found in the prior art. In particular the synchronization circuit coupled to a control unit set up is clearly found in the prior art. However, not synchronizing in a synchronization circuit and clipping or removing the synchronization frame to get only the data frame passed to the control unit is not found in the prior art. In other words and in light of the specification, the prior art does not teach

Art Unit: 2611

an RFID system that drops the preamble (synchronization frame) and passes the data only without regard to actually synchronizing at the start of system communication. Then further the control unit does not take the synchronization frame information, just the data. The synchronization frame (preamble) is taken away by the synchronization circuit. This system would save time in a warehouse by taking that chance that the data is already synchronized, the system and take inventory faster than other systems. The benefit could be faster processing time, with the drawback of poor quality. The prior art does teach an RFID system that synchronizes, then AFTER synchronization other data frames get sent without the synchronization information. Applicant's amendment clarifies that the system does not synchronize at the control unit or that there is no known synchronization to start the system off in other words. Meaning, there are systems that synchronize then start sending data to those control units. This system does not synchronize and starts receiving data right away in hope that by chance the two RFID devices are already synchronized, resulting in a faster inventory. In the prior art, first the system synchronizes and uses the synchronization frames to synchronize, then other data frames that do not contain synchronization frames get either received, processed and so on. The added utility or benefit could be that both the tag and the reader are synchronized already and why not start to process that data, if synchronization can be avoided. In other words the claimed system starts to process data without regard of synchronization by only passing the data frames to the control unit for processing. Applicant's arguments were key in the examiner interpreting the claims in a different manner and in suggesting an amendment to clearly claim the invention. Roz (WO 99/60510) and Raphaeli (US 2007/0109099) are the closest prior art. Both references teach synchronization in the same manner as applicant. However, the difference is in that they do not

REMOVE synchronization frames at a synchronization circuit, and then ONLY pass on the data to a control unit. Roz strips synchronization frames, but to actually use them for synchronization. Raphaeli actually synchronizes first, or the actual data frames only come AFTER the system is actually synchronize. By the applicant agreeing to amend the claims the way the Examiner suggested and as argued in the Appeal Brief in fact these two references actually would teach away from what applicant's invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SANTIAGO GARCIA whose telephone number is (571)270-5182. The examiner can normally be reached on MONDAY- FRIDAY 7:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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